COOPERATIVE EXTENSION SERVICE SDSU

Extension Extra

ExEx 5055
June 2004
Economics

COLLEGE OF AGRICULTURE & BIOLOGICAL SCIENCES / SOUTH DAKOTA STATE UNIVERSITY / USDA

How to Capture High Calf Prices

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Feeder cattle prices recently rose above the nominal levels observed in late 2003, indicating optimism about higher prices for slaughter cattle in the future. However, unlike 2003 the deferred feeder cattle futures prices have also increased to relatively high levels. Producers in South Dakota market a high proportion of the state's calf crop shortly after weaning. Generally, the largest volume of sales occurs during October and November with the calves commonly weighing 500-600 pounds. This publication provides suggestions for producers who will be selling calves on how to capture the relatively high prices currently available.

Nature of the Risk

Risks faced by the cow-calf producer looking at high prices are production risk and the risk from prices trending lower from current levels. Production risk is a reality even after calves are born, because drought conditions could make feed and water costs prohibitive to producing a 550 lb. calf or stocker. If production risk is substantial, then a producer would not want to price cattle of a specific weight.

One can determine price risk by measuring potential extent or tendency for prices to move lower. The forward contract market for stocker cattle is thinly traded, but the futures market for feeder cattle can serve as a close substitute. A cow-calf operator looking to sell stocker cattle in November could look at changes in the November feeder cattle futures prices from June until November (table 1). During the last ten years the futures price has declined by as much as $6.62 per cwt. and increased by as much as $17.24 per cwt. The futures price has increased in six of the ten years. Thus, there can be significant downside risk, but producers could also be hesitant to forward price cattle because of the potential for prices to move substantially higher.

Stocker Basis

Another issue of concern when looking at price risk management for stockers is basis risk. Basis is the difference between a cash price and a futures price, normally of the same commodity. However, the futures price available is for feeder cattle (steers weighing 700 to 850 lbs.) and the cash price of interest is for stocker cattle (steers weighing 500 to 600 lbs.). Thus, a cross-hedge situation exists with additional basis risk compared to pricing feeder cattle.

The stocker basis shown is the cash price for stockers minus the cash price for feeders during the listed month (table 2). One could use the nearby feeder cattle futures price, but contract specification changes in recent years have made the historical comparison questionable. For a producer who sells stockers in November, the price received from 1994 through 2003 ranged from $1.36 to $13.90 per cwt. over (or above) the price of feeder cattle during November. In general, the stocker basis is positive in South Dakota; it tends to narrow with higher corn prices, and it tends to widen with higher live cattle futures prices. Given a November futures price for feeder cattle, an expected basis is necessary to determine a cash price for stocker cattle.

Table 1. Historic changes in November feeder cattle futures prices from June until November

Year	Level in June ($/cwt.)	Level in November ($/cwt.)	Change
1994	73.83	74.70	0.87
1995	65.61	64.46	-1.14
1996	61.69	64.97	3.29
1997	79.16	77.39	-1.77
1998	74.72	69.92	-4.80
1999	77.77	81.30	3.53
2000	87.43	88.28	0.85
2001	91.51	84.89	-6.62
2002	76.89	82.88	5.99
2003	85.78	103.02	17.24

Forward Pricing

One way to capture high calf prices is to use cash forward contracts. The buyer and seller reach an agreement regarding price, weight, delivery date, and who pays for delivery. Relationship risk exists using forward contracts, as one of the parties may be unable to fulfill their contractual obligations either at all or in a timely manner. Typically, there is relatively low volume of forward contracted feeder cattle in early summer. However, the extremely tight supplies of feeder cattle have encouraged feedlots to bid earlier than normal to fill pens. The Agricultural Marketing Service (AMS) reports forward prices for feeder cattle in South Dakota through direct price reports and video/internet auction reports.

The AMS releases the weekly "South Dakota Direct Feeder Cattle" report (also labeled SF_LS160) on Fridays. The report generally has direct sales throughout the year for current placement into South Dakota feedlots. During mid to late summer there are often sales quoted with a future delivery date. For example, the June 4, 2004 report listed 87 head of steers, expected to weigh 585 pounds when picked up in October, for a price of $115 per cwt. The "Superior Video Auction" report (also labeled AM_LS753) from June 1, 2004 listed a large number of feeder cattle sourced from North Central states (a region that includes South Dakota). The prices quoted ranged from $113-132 per cwt. (with a weighted average of $121.53 per cwt.) for 500 to 600 pound steers with delivery dates from September to January.

To evaluate the forward prices, compare them to the feeder cattle futures price and stocker basis. The weighted average price of $121.53 per cwt. exceeds the November futures price of $105.10 per cwt. on June 4, 2004 by $16.43 per cwt. The highest stocker basis observed for November was only $13.90 per cwt., thus the forward contract looks quite favorable for the seller. However, the seller forgoes any price increase once the stockers are contracted.

Selling futures contracts

Stocker cattle can be cross-hedged using feeder cattle futures contracts. For the producer who will sell stocker cattle, a hedge is placed by selling feeder cattle futures. The feeder cattle futures contracts are for 50,000 lbs. or 500 cwt. Using the midrange weight, the contracts would cover 65 head of feeder cattle. Dividing the contract size by 550 lbs. implies that 90 head of stockers can be cross-hedged with each futures contract.
To sell a futures contract or trade an options contract, the producer will need a commodity broker. Most brokers can explain the industry terms and help implement the strategies described here. Selling futures contracts and certain option strategies will require margin money. A producer should work with a knowledgeable agricultural lender to handle any margin calls.

In June, a producer could cross-hedge calves using November feeder cattle futures. Over the last ten years, routine hedging resulted in no gain over just selling stockers in the fall. When the futures prices are unbiased and reflect a non-storable commodity, selective hedging is the only way to exceed average returns. Hedgers must decide what price level is high enough, and then place their hedge. On June 4, 2004, a hedger could have sold futures for $105.10 per cwt. Should feeder cattle prices decline by November, lower returns on the cash side would be offset by gains on the futures side. Cross-hedging does not fix the basis. Thus, basis could narrow and reduce cash returns. Basis tends to be wide in years when futures prices are relatively high during the early summer months, but basis is not related to subsequent changes in futures price.

Buying Put Options

Another effective way to cross-hedge stockers is to use feeder cattle put options. Buying put options leaves the upside open, meaning that if prices rise by November, the hedger will have higher returns compared to selling futures. Buying put options reduces the risk of prices

Table 2. South Dakota Stocker Cattle Basis Relative to the CME Feeder Cattle Index ($/cwt.)

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*
1994	11.10	13.03	15.41	18.58	14.53	12.30	10.94	9.43	6.66	8.55	6.60	6.19
1995	9.36	11.15	13.32	14.94	13.92	12.98	11.38	7.53	4.43	1.77	1.36	1.65
1996	3.94	5.92	6.25	7.50	10.60	6.46	3.02	0.62	3.21	4.14	4.12	2.99
1997	5.90	10.00	14.27	18.84	17.51	15.10	12.77	8.37	8.36	11.74	11.14	12.53
1998	15.05	14.84	17.47	18.59	17.04	13.20	4.89	8.96	6.25	12.14	9.34	12.07
1999	13.67	13.98	15.09	16.51	17.02	16.94	13.36	15.74	12.83	13.90	12.11	14.04
2000	15.64	18.34	21.63	22.28	21.08	21.11	14.79	11.46	15.16	16.76	13.90	11.96
2001	14.66	16.95	19.04	19.45	19.07	22.67	17.71	15.47	9.64	10.05	10.14	15.23
2002	17.09	19.20	20.57	19.75	19.46	16.80	10.96	13.09	12.48	6.57	6.06	9.78
2003	12.30	15.56	20.57	20.29	22.79	20.60	12.77	13.11	11.92	7.46	7.25	10.81

moving lower to the risk of basis narrowing. Put options come at a cost. The premium on the November put option listed on June 4, 2004 with a strike price of $100 was $4.00 per cwt. Because the contract is for 500 cwt., the out of pocket premium is $2,000 plus a broker commission. If a hedger uses the put option to protect 90 head of stockers, the cost is $22.22 per head or $3.64 per cwt. Using that strike price ($100), premium level ($3.64), and most-narrow basis ($1.36), the floor price becomes $97.72 per cwt.

Other Considerations

Options are relatively expensive compared to historical levels. For example, the implied volatility for $100 strike price put option was 22.6 percent on June 4, 2004, while typical volatility over the life of options on the November contract is 10 percent. The higher volatility is adding over $3 per cwt. to the option premium. One way to manage high prices and high volatility is to use synthetic put options. Here, a hedger would sell a futures contract and buy an out-of-the-money call option; that is, a call option with a strike price above the future price. On June 4, 2004 the call option with a strike price of $106 had a premium of $4.80 per cwt.

A synthetic put is a way to get a floor price closer to the futures price compared to buying a put option outright. A synthetic put involves buying a call option and either selling a futures contract or using a cash forward contract. One drawback is that the hedger faces a large cash outlay when buying a call option. Another drawback is the potential for margin calls if the hedger sells a futures contract. Hedgers who have cash forward contracted can buy call options to again have upside price potential.

Potential hedgers can become aware of forward prices available, especially given the increase in such activity this year. There are trade-offs when using the strategies presented. Basis is a consideration, and basis risk is quite large for those cross-hedging stockers against feeder cattle futures or options contracts. The drawbacks, however, may be acceptable if producers can capture a very profitable calf price. Because multiple tools are available with the current price levels, a producer can also diversify by using more than one strategy. One final note, the USDA's Risk Management Agency may resume sales of Livestock Risk Protection (LRP) for feeder cattle this summer. LRP will likely function simi lar to buying put options, and if the proposed changes are made, LRP may mitigate some basis risk problems.

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